



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,535	08/15/2001	Raymond F. Cracauer	FORS-06449	2205
23535	7590	05/03/2006	EXAMINER	
MEDLEN & CARROLL, LLP 101 HOWARD STREET SUITE 350 SAN FRANCISCO, CA 94105			NAGPAUL, JYOTI	
			ART UNIT	PAPER NUMBER
			1743	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/930,535

Applicant(s)

CRACAUER ET AL.

Examiner

Jyoti Nagpaul

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-23,25-33,49,57,58,64,69 and 74 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-23,25-33,49,57,58,64,69 and 74 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendment filed on February 9, 2006 has been acknowledged. Claims 18-23, 25-33, 49, 57-58, 64,69 and 74 are pending.

Response to Amendment

Rejection of Claims 18-23, 25-33, 49, 57-58, 64,69 and 74 as being unpatentable over Zelinka (US 4598049) has been *maintained* in light of applicant's arguments.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

Art Unit: 1743

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claims 18-23,25-33,49,57-58,64,69 and 74** are rejected under 35 U.S.C. 103(a) as being unpatentable over Zelinka (US 4598049).

Zelinka teaches an automated system comprising a closed system nucleic synthesizer configured for parallel synthesis of three or more polymers. (Col. 7, Lines 14-16).

Zelinka further teaches a controlled gene synthesizer for programmably synthesizing selected nucleotide sequences. The apparatus operates to sequentially wash and dry the contents of the cell, expose nucleotide reaction sites, add and couple bases at the reaction sites and cap or protect the reaction sites by a robotic component. Some of the functions related to operator programming of a desired DNA coupling sequence include selecting various ones or combinations of the individuals bases; adding the selected bases or combinations to the reaction cell with appropriate preparation and washout steps; performing the washing of the reaction cell for the next base addition. (Lines 61-3, Col. 17-18) Zelinka describes base addition includes refilling of syringes, performing a pyridine wash and nitrogen blow down of the reaction cell, capping the ends of the nucleotide sequences, cell temperature control and resetting the elapsed time counter. Zelinka also discusses means for heating the reaction cell to promote the growth process. (Lines 56-57, Col. 2) The temperature controller provides the operator with pertinent temperature information as it relates to the reaction cell. The temperature controller generally monitors the temperature of the reaction cell which is heated by an

Art Unit: 1743

epoxy encapsulated thin film heater element that is wrapped around the reaction cell.

With respect to Claims 63-69, 70, 72, and 78, Zelinka teaches temperature control and is clearly capable of operating in with the recited temperature range. "Providing an optimized reaction temperature" is considered an intended use of the apparatus and is not accorded patentable weight in claims to that apparatus. The temperature is set and read via a set/read switch. (Lines 55-68, Col. 5) Zelinka describes a fluid circuit exists from source to waste and at any time reagents are being transferred. Zelinka discloses a plurality of syringe bodies/ reagent dispensers or pressurized containers for delivery of reagents. (Col. 6, Lines 12-16) (Col. 5, Lines 8-10) Zelinka further discloses agitating/mixing means. (Col. 4, Lines 38-39)(Col. 6, Lines 27-30) Zelinka teaches isolation is achieved via a valve body V17 that acts as a selector valve for the solvent bottles. (Lines 52-55, Col. 11) The enablement of the valve body V17, only one or desired simultaneous combination of the solvent/reagents is selected and directed to valve body V26. Depending on the position of valve body V26 the liquid is again selectively directed either through reaction cell 14 to valve body V27 and then to collection or waste; or is blocked from flowing through cell 14. In this which case a nitrogen or argon gas purge is directed from the top of the cell 14. (Lines 57-65, Col. 11, Refer to Fig. 6) Zelinka teaches a closed system. Zelinka further discloses a de-tritylation step for which the chemicals are delivered to an external collector and tested via known techniques and spectrophotometric test and recording apparatus. (Col. 5, Lines 22-26) With respect to Claim 34, Zelinka discloses a plurality of injectors that are simultaneously actuable. (Claim 1, Lines 30-32)

Zelinka fails to explicitly disclose three or more reaction chambers. Zelinka does teach, "At this point, it should also be recognized that while the present description is made with respect to a single reaction cell 14, conceivably a number of such cells could be coupled to the present apparatus. Each such additional cells 14 could then, too, either be vibrated and/or heated as desired and within which identical or different sequences could be grown, depending on the programming of the controller 12. Such additional cells 14 then, too, could be operated in parallel or sequentially so as to optimize the through-put of the present apparatus." (See Col. 7, Lines 6-16)

It would have been obvious to one of the ordinary skill in this art at the time of the invention by applicant to modify the system of Zelinka such that there are three or more reaction chambers in order to optimize the throughput of the apparatus.

Response to Arguments

Applicant's arguments filed on February 9, 2006 have been fully considered but they are not persuasive. Applicants argue that Zelinka does not teach a **plurality** of reagent dispensers and a **plurality** of reagent delivery lines. As stated in the office action above, it would have been obvious to one of ordinary skill in the art at time the invention such that Zelinka includes a plurality of reagent dispensers and a plurality of reagent delivery lines in order to optimize the throughput of the apparatus. Also, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jyoti Nagpaul whose telephone number is 571-272-1273. The examiner can normally be reached on Monday thru Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1743

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JN


Jill Warden
Supervisory Patent Examiner
Technology Center 1700